



# Indiana Crop & Weather Report

INDIANA AGRICULTURAL STATISTICS  
U.S. DEPARTMENT OF AGRICULTURE  
PURDUE UNIVERSITY  
1148 AGAD BLDG, ROOM 223  
WEST LAFAYETTE, IN 47907-1148  
Phone (765)494-8371  
Phone (800)363-0469  
FAX (765)494-4315  
FAX (800)363-0475

Released: Monday, 3PM

July 2, 2001

Vol. 51, #26

West Lafayette, IN 47907

## CROP REPORT FOR WEEK ENDING JULY 1

### AGRICULTURAL SUMMARY

Favorable weather conditions most of the week allowed farmers to continue harvest of winter wheat, bale hay and spray fields for weeds and insects. Corn and soybean condition improved from a week earlier. Precipitation was minimal, but showers popped up in some areas around the state. Weeds have been a major problem this year. Cultivation and spraying have taken place in many fields to control weeds.

### FIELD CROPS REPORT

There were 6.1 **days suitable for fieldwork**. Corn **condition** is rated 78 percent good to excellent compared with 76 percent last week and 84 percent last year at this time. Virtually all of the **soybean** acreage has been planted. Virtually all of the intended soybean acreage has **emerged**, except for some double crop soybeans. Soybean **condition** is rated 68 percent good to excellent compared with 65 percent last week and 63 percent last year. Major activities during the week included spraying, harvesting wheat, planting double crop soybeans, cleaning and repairing equipment, baling hay and straw, moving grain to market.

Winter wheat **condition** is rated 69 percent good to excellent compared with 73 percent a year ago at this time. Wheat **harvest** is 48 percent complete compared with 43 percent last year and 32 percent for the 5-year average. By area, wheat harvest is 5 percent complete in the north, 38 percent complete in the central regions and 86 percent complete in the south.

### LIVESTOCK, PASTURE AND RANGE REPORT

**Pasture condition** is rated 9 percent excellent, 49 percent good, 26 percent fair, 12 percent poor and 4 percent very poor. Transplanting of **tobacco** is 99 percent complete compared with 100 percent last year and 81 percent for the average. Second cutting of **alfalfa** hay is 25 percent complete.

### CROP PROGRESS TABLE

Crop	This Week	Last Week	Last Year	5-Year Avg
Percent				
Corn Silked	3	NA	4	2
Soybeans Blooming	15	NA	17	8
Wheat Harvested	48	25	43	32
Tobacco Plants Set	99	95	100	81
Alfalfa Second Cutting	25	NA	NA	NA

### CROP CONDITION TABLE

Crop	Very Poor	Poor	Fair	Good	Excellent
Percent					
Corn	0	3	19	60	18
Soybeans	0	5	27	60	8
Pasture	4	12	26	49	9
Winter Wheat 2001	1	4	26	54	15

### SOIL MOISTURE & DAYS SUITABLE FOR FIELDWORK TABLE

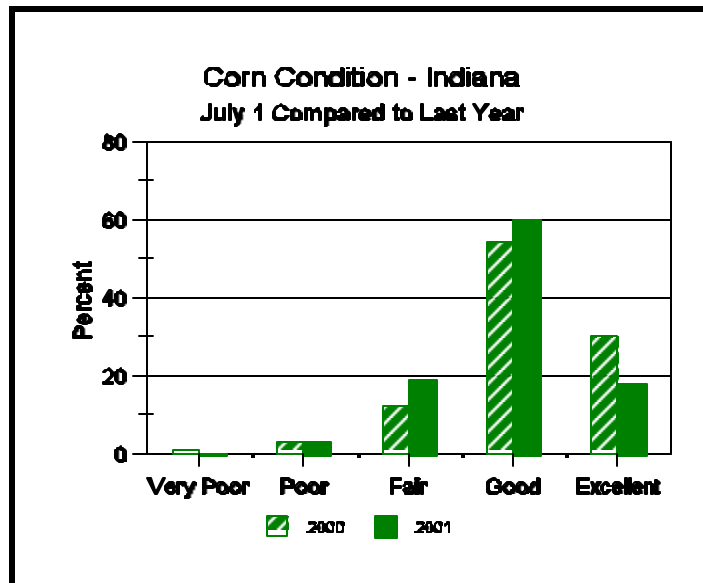
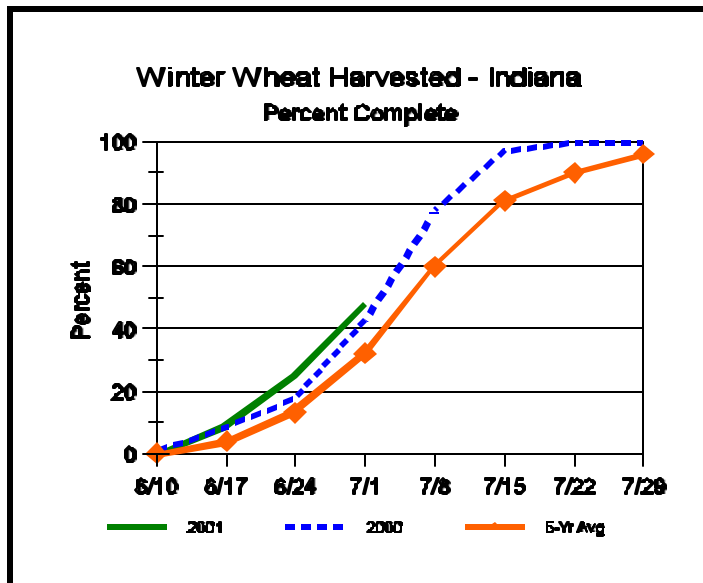
	This Week	Last Week	Last Year
Percent			
<b>Topsoil</b>			
Very Short	1	1	0
Short	13	4	3
Adequate	78	75	73
Surplus	8	20	24
<b>Subsoil</b>			
Very Short	3	3	3
Short	17	13	14
Adequate	75	74	71
Surplus	5	10	12

<b>Days Suitable</b>	6.1	4.0	3.7
----------------------	-----	-----	-----

### CONTACT INFORMATION

--Ralph W. Gann, State Statistician  
--Bud Bever, Agricultural Statistician  
E-Mail Address: [nass-in@nass.usda.gov](mailto:nass-in@nass.usda.gov)  
<http://www.nass.usda.gov/in/index.htm>

# Crop Progress



## Other Agricultural Comments And News

### Sex In The Corn Field: Tassel Emergence & Pollen Shed

- Corn produces both male and female flowers on the same plant
- The tassel contains the male flowers of the corn plant

Early planted corn in the southern areas of Indiana is beginning to move into the critical flowering stages of pollen shed and silk emergence. Corn throughout the rest of the state will similarly enter the critical pollination period during the next three weeks. Success or failure during this period of the corn plant's life will greatly influence the potential yield at harvest time.

As important as this process is to the determination of grain yield, it is surprising how little some folks know about the whole thing. Rather than leaving you to learn about such things "in the streets", I've developed this article and the accompanying one on silking that describe the ins and outs of sex in the corn field.

Remember that corn has both male flowers and female flowers on the same plant (a flowering habit called monoecious for you trivia fans). Interestingly, both flowers are initially bisexual (aka 'perfect'), but during the course of development the female components (gynoeceia) of the male flowers and the male components (stamens) of the female flowers abort, resulting in tassel (male) and ear (female) development.

Technically, growth stage VT occurs when the last branch of the tassel emerges from the whorl (Ritchie et al., 1993). Portions of the tassel may be visible before the maximum leaf

stage (final visible leaf collar) has occurred. Plant height is nearly at its maximum at growth stage VT. Pollen shed may begin before the tassel has completely emerged from the whorl.

The corn plant is most vulnerable to hail damage at growth stage VT since all of its leaves have emerged. Complete (100%) leaf loss at growth stage VT will usually result in complete (100%) yield loss by harvest. Even if pollination is successful, the ear shoots will usually die because few leaves remain to produce the necessary carbohydrates (by photosynthesis) to complete grain fill.

Between 500 to 1000 spikelets form on each tassel. Each spikelet contains two florets. Each floret contains three anthers. The anthers are those 'thingamajigs' that hang from the tassel during pollination. Under a magnifying lens, anthers look somewhat like the double barrel of a shotgun.

As these florets mature, anthers emerge from the glumes and pollen is dispersed through pores that open at the tips of the anthers. Pollen shed usually begins in the mid-portion of the central tassel spike and then progresses upward, downward and outward over time. Anthers typically emerge from the upper flower first, while those from lower flower typically emerge later the same day or on following days. Spent anthers eventually drop from the tassel and are sometimes mistaken for the pollen itself when observed on the leaves or ground.

The yellow 'dust-like' pollen that falls from a tassel represents millions of individual, nearly microscopic, spherical, yellowish or whitish translucent pollen grains.

(Continued on Page 4)

# Weather Information Table

Week ending Sunday July 1, 2001

Station	Past Week Weather Summary Data							Accumulation				
	Air				Precip.		Avg	April 1, 2001 thru				
	Temperature				Total		4 in	July 1, 2001				
	Hi	Lo	Avg	DFN	Total	Days	Soil Temp	Precipitation	DFN	Days	Total	DFN
<b>Northwest (1)</b>												
Valparaiso_Ag	88	58	73	+3	0.00	0		10.16	-2.02	45	1156	+148
Wanatah	90	57	74	+3	0.00	0	79	10.72	-0.82	45	1122	+170
Wheatfield	89	58	74	+3	0.00	0		10.65	-0.80	43	1188	+203
Winamac	88	58	74	+3	0.05	2	79	13.19	+1.67	46	1194	+150
<b>North Central(2)</b>												
Logansport	87	58	73	+2	0.02	2		14.57	+3.50	45	1190	+134
Plymouth	88	56	73	+0	0.00	0		11.21	-0.79	43	1089	-1
South_Bend	88	57	74	+3	0.00	0		12.37	+1.09	43	1157	+170
Young_America	87	57	73	+1	0.03	1		10.09	-0.98	38	1277	+221
<b>Northeast (3)</b>												
Bluffton	87	57	74	+2	0.10	2	73	11.78	+0.11	45	1216	+132
Fort_Wayne	87	55	73	+1	0.24	1		10.42	-0.11	44	1191	+150
<b>West Central (4)</b>												
Crawfordsville	86	52	72	-2	0.08	1	75	9.68	-2.49	39	1212	+35
Perrysville	85	55	72	-2	0.00	0	75	7.40	-4.86	37	1321	+182
Terre_Haute_Ag	89	54	73	-2	0.05	1	76	12.88	+0.80	36	1471	+245
W_Lafayette_6NW	87	55	73	+2	0.00	0	81	8.21	-3.22	36	1314	+251
<b>Central (5)</b>												
Castleton	85	55	73	-2	0.22	1		12.32	+0.78	37	1325	+137
Greenfield	85	57	73	-1	0.00	0		11.37	-0.62	38	1319	+176
Greensburg	86	57	74	+1	0.02	1		12.60	+0.03	35	1421	+287
Indianapolis_AP	85	59	74	-1	0.00	0		10.43	-0.89	32	1425	+212
Indianapolis_SE	85	57	73	-1	0.00	0		9.89	-1.65	31	1272	+84
Tipton_Ag	86	53	72	+0	0.00	0	73	10.35	-0.99	32	1168	+150
<b>East Central (6)</b>												
Farmland	88	54	73	+2	0.06	1	74	12.33	+0.72	39	1199	+217
New_Castle	82	55	70	-3	1.47	3		17.19	+4.62	43	1067	+60
<b>Southwest (7)</b>												
Dubois_Ag	86	57	73	-2	0.09	3	81	11.05	-2.37	33	1530	+288
Evansville	86	60	74	-4	0.01	1		9.33	-3.05	33	1679	+212
Freelandville	86	61	74	-3	0.00	0		9.26	-3.47	32	1522	+244
Shoals	86	55	72	-3	0.02	1		10.96	-2.60	35	1424	+201
Vincennes_5NE	86	57	73	-2	0.00	0	73	7.96	-4.77	26	1578	+300
<b>South Central(8)</b>												
Bloomington	86	57	74	-1	0.12	1		10.13	-2.22	38	1442	+199
Tell_City	85	58	73	-3	0.03	1		11.27	-2.58	25	1603	+229
<b>Southeast (9)</b>												
Scottsburg	86	57	73	-2	0.27	3		11.37	-1.18	40	1484	+216

DFN = Departure From Normal (Using 1961-90 Normals Period).

GDD = Growing Degree Days.

Precipitation (rain or melted snow/ice) in inches.

Precipitation Days = Days with precipitation of 0.01 inch or more.

Air Temperatures in Degrees Fahrenheit.

Copyright 2001: AWIS, Inc. All Rights Reserved.

The above weather information is provided by AWIS, Inc.  
For detailed ag weather forecasts and data visit the AWIS home page at  
[www.awis.com](http://www.awis.com) or call toll free at 1-888-798-9955.

## Sex In The Corn Field: Tassel Emergence & Pollen Shed (Continued)

Each pollen grain contains the male genetic material necessary for fertilizing the ovary of one potential kernel.

The outer membrane of a pollen grain is very thin. Once dispersed into the atmosphere, pollen grains remain viable for only a few minutes before they desiccate. Yet, with only a 15 mph wind, pollen grains can travel as far as 1/2 mile within those couple of minutes.

Therein lies the concern of the potential for pollen 'drift' from a transgenic corn field to an adjacent non-transgenic corn field and the risk of transgenic 'contamination' of grain intended for non-transgenic sale. The good news is that recent research suggests that the overwhelming majority of a corn field's pollen load is shed in the field itself.

All of the pollen from a single anther may be released in as little as three minutes. All the anthers on an individual tassel may take as long as seven days to finish shedding pollen, although the greatest volume of pollen is typically shed during the second and third day of anther emergence. Because of natural field variability in plant development, a whole field may take as long as 14 days to complete pollen shed.

Peak pollen shed usually occurs in mid-morning. Some research indicates that pollen shed decreases after

temperatures surpass 86°F. A second 'flush' of pollen often occurs in late afternoon or evening as temperatures cool. Pollen shed may occur throughout most of the day under relatively cool, cloudy conditions.

Weather conditions influence pollen shed. If the anthers are wet, the pores will not open and pollen will not be released. Thus, on an average Indiana summer morning following a heavy evening dew, pollen shed will not begin until the dew dries and the anther pores open. Similarly, pollen is not shed during rainy conditions. So, growers need not worry about pollen being washed off the tassel during heavy rainfall. Cool, humid temperatures delay pollen shed, while hot, dry conditions hasten pollen shed.

Extreme heat stress (100°F or greater) can kill corn pollen, but fortunately the plant avoids significant pollen loss by virtue of two developmental characteristics. First of all, corn pollen does not mature or shed all at once. Pollen maturity and shed occur over several days and up to two weeks. Therefore, a day or two of extreme heat usually does not affect the entire pollen supply. More importantly, the majority of daily pollen shed occurs in the morning hours when air temperature is much more moderate.

Bob Nielsen, Department of Agronomy, Purdue University.

The INDIANA CROP WEATHER REPORT (USPS 675-770), (ISSN 0442-817X) is issued weekly April through November by the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148. Second Class postage paid at Lafayette IN. For information on subscribing, send request to above address. POSTMASTER: Send address change to the Indiana Agricultural Statistics Service, Purdue University, 1148 AgAd Bldg, Rm 223, West Lafayette IN 47907-1148.